

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A moving image resume reproduction system which is a system device for reproducing moving image data ~~in an arbitrary format (including a file in which still images are recorded continuously, and an animation file; same hereinafter),~~ comprising:

~~an input operation part for performing an input operation;~~

a storage part for storing a moving image data file, a reproduction information file in which control information concerning a reproduction process, including a reproduction position of the moving image file, is described, and a reproduction processing reference file composed of image data of an arbitrary number of unit frames;

a moving image file processing part for performing the reproduction process for the moving image file;

a reproduction information file processing part for performing a reading/writing and an analysis of the reproduction information file; ~~[[and]]~~

an operation managing part for controlling the moving image file processing part and the reproduction information file processing part; and

a basic frame reconstitution part for reconstituting basic frame including all data of information necessary for decoding one frame at an arbitrary position.

2. (Currently Amended) The moving image resume reproduction system as claimed in claim 1, wherein the arbitrary position is near reproduction stop position when receiving a reproduction stop command during reproduction of the moving image. ~~storage part is incorporated in a terminal including the resume reproduction system, attached externally, or associated on an external network.~~

3. (Currently Amended) The moving image resume reproduction system as claimed in claim 1, wherein the arbitrary position is near reproduction position when the reproduction position was designated or specific. ~~moving image file processing part includes a data processing part for performing at least one of processes of reproducing and recording each of different types of data included in the moving image file.~~

4. (Currently Amended) The moving image resume reproduction system as claimed in claim 1, wherein the arbitrary position is near reproduction stop position when receiving a reproduction start command during reproduction stop of the moving image. ~~reproduction information file processing part includes:~~

~~a file analyzing part for analyzing a syntax of a read file; and
informing means for informing the operation managing part of a result of a file analysis by the file analyzing part.~~

5. (Currently Amended) The moving image resume reproduction system as claimed in claim 1, wherein the basic frame reconstitution part creates the reproduction processing reference file based on the moving image file and the reproduction information file. ~~, in the reproduction information file are described:~~

~~a process determination code for indicating whether or not a file is to be processed, a file name of the moving image file to be reproduced, and a reproduction start time to reproduce.~~

6. (Currently Amended) The moving image reproduction resume ~~reproduction~~ system as claimed in claim 1, wherein the moving image file processing part includes a data processing part for performing at least one of processes of reproducing and recording each of different types of data included in the moving image file. ~~means for informing the operation managing part of: a reproduction elapsed time during the reproduction process for the moving image file; and a basic frame processing time at which a reproduction process is performed for a reference image generation frame which is a basic frame included in the moving image file, and includes all information necessary for reproducing an image of one frame.~~

7. (Currently Amended) The ~~resume~~ moving image reproduction system as claimed in ~~claim 2~~, claim 1 wherein, in the reproduction information file are described the data processing part device includes:

at least a reproduction start time to reproduce the moving image. means for retrieving an arbitrary number of frames following a point of occurrence of an event for instructing a timing for creating the reproduction information file, from the moving image file;

means for generating a basic frame; and

means for coupling the basic frame and a difference frame including only a difference from an immediately preceding frame to generate one reproduction processing reference file.

8. (Currently Amended) The moving image ~~resume~~ reproduction system as claimed in claim 1 ~~claim 2~~, wherein the moving image file processing part includes an informing part for informing the operation managing part of: a reproduction elapsed time during the reproduction process for the moving image file; and a basic frame processing time at which a reproduction process is performed for a reference image generation frame which is a basic frame included in the moving image file, and includes all information necessary for reproducing an image of one frame. reproduction processing reference file includes a process determination code for indicating whether or not a file is to be processed, a file name of the moving image file to be reproduced, and at least a basic frame among the basic frame and a difference frame.

9. (Currently Amended) The moving image ~~resume~~ reproduction system as claimed in claim 6 ~~claim 1~~, wherein the data processing part includes:

a frame receiver for retrieving an arbitrary number of frames following a point of occurrence of an event for instructing a timing for creating the reproduction information file, from the moving image file;

a basic frame reconstitution part for reconstituting basic frame at the retrieving position;

a difference frame reconstitution part for reconstituting difference frame concerning intermediate arbitrary numbers of frames based on the basic frame; and

a creation part that creates one reproduction processing reference file combined with the basic frame and the immediately preceding frame. operation managing part includes determining means for detecting a difference between a reproduction start time and a basic frame processing

~~time, and determining whether or not a detected difference value is within an arbitrary threshold value.~~

10. (Currently Amended) The moving image reproduction resume reproduction system as claimed in claim 1, wherein the operation managing part includes a determining part for detecting a difference between a reproduction start time and a basic frame processing time, and determining whether or not a detected difference value is within an arbitrary threshold value. ~~moving image file processing part is capable of selecting whether or not to start a reproduction process from an arbitrary basic frame in the moving image file, or to perform a reproduction process for a difference frame subsequently after reproducing frame data in the reproduction processing reference file.~~

11. (Currently Amended) The moving image reproduction resume reproduction system as claimed in claim 1, wherein the ~~input operation part includes an interface for acquiring a mode value for an operator to set whether or not to perform a resume reproduction, a name of the moving image file~~ processing part is capable of selecting whether or not to start a reproduction process from an arbitrary basic frame in the moving image file, or to perform a reproduction process for a difference frame subsequently after reproducing frame data in the reproduction processing reference file. ~~to be reproduced, at least one of a reproduction event and a stop event, and an event for instructing a timing for creating the reproduction information file at an arbitrary position during reproduction of the moving image file.~~

12. (Currently Amended) The moving image reproduction system as claimed in claim 1, wherein the input operation part includes an interface for acquiring a mode value for an operator to set whether or not to perform a resume reproduction, a name of the moving image file to be reproduced, at least one of a reproduction event and a stop event, and an event for instructing a timing for creating the reproduction information file at an arbitrary position during reproduction of the moving image file. ~~A resume reproduction system which is a device for reproducing moving image data in an arbitrary format, wherein the device processes an arbitrary number of following frames into a basic frame when receiving a command to shift to a resume state.~~

13. (Currently Amended) The moving image reproduction system of claim 1,
wherein the system reconstructs the next library numbers of frames as a basic frame including all
data of information necessary for decoding one frame when receiving a reproduction stop
command during reproduction of the moving image. A resume-reproduction method comprising
steps of:

~~acquiring a moving image file name to be reproduced, according to an operation event~~
~~from an operator;~~

~~acquiring a moving image file corresponding to the moving image file name, and~~
~~dividing the moving image file into different types of data when the moving image file is in a file~~
~~format in which the different types of the data are multiplexed;~~

~~performing a reproduction process concerning a basic frame including all data of~~
~~information necessary for reproducing one frame, and a reproduction process for a difference~~
~~frame including only difference data from an immediately preceding frame; and~~

~~determining whether or not a reproduction stop command or a generation command for a~~
~~reproduction information file has been issued according to the operation event from a file~~
~~operator including the basic frame, and when a reproduction stop event or a reproduction~~
~~information file generation command had occurred, creating a related file for performing a~~
~~resume-reproduction, and generating a basic frame from data of an arbitrary number of frames~~
~~subjected to the reproduction process.~~

14. (Currently Amended) A moving image reproduction ~~resume-reproduction~~ method
comprising:

acquiring a moving image file name to be reproduced, according to an operation event
from an operator;

acquiring a moving image file corresponding to the moving image file name, and
dividing the moving image file into different types of data when the moving image file is in a file
format in which the different types of the data are multiplexed;

performing a reproduction process concerning a basic frame including all data of
information necessary for reproducing one frame, and a reproduction process for a difference
frame including only difference data from an immediately preceding frame; and

determining whether or not a reproduction stop command or a generation command for a reproduction information file has been issued according to the operation event from a file operator including the basic frame, and when a reproduction stop event or a reproduction information file generation command had occurred, creating a related file for performing a resume reproduction, and generating a basic frame from data of an arbitrary number of frames subjected to the reproduction process. ~~The resume reproduction method as claimed in claim 13, wherein the method further comprises steps of comprising: detecting a difference between a reproduction elapsed time at which a decoding process is executed, and a decoding process time for the new I frame, determining whether or not the difference value is equal to or smaller than a predetermined threshold value, and storing recoded data when the difference value is equal to or larger than the threshold value which is a reference value for determining whether or not the resume reproduction is effective.~~

15. (Currently Amended) The moving image reproduction resume reproduction method as claimed in claim 14 ~~claim 13~~, wherein the method further comprises ~~a step~~ steps of detecting a difference between a reproduction elapsed time at which a decoding process is executed, and a decoding process time for the new I frame, determining whether or not the difference value is equal to or smaller than a predetermined threshold value, and storing recorded data when the difference value is equal to or larger than the threshold value which is a reference value for determining whether or not the resume reproduction is effective, comprising ~~determining whether or not to set a reproduction start position of the multiplexed data to an originally existing I frame, or to the new I frame.~~

16. (Currently Amended) The moving image reproduction method as claimed in claim 1, wherein the method further comprises a step of determining whether or not to set a reproduction start position of the multiplexed data to an originally existing I frame, or to the new I frame. A resume reproduction method comprising steps of:

~~discriminating whether or not a resume reproduction mode is specified according to an operation event;~~

~~reading a reproduction information file corresponding to a file name of data including an I frame when the resume reproduction mode is specified; and~~

~~searching for a reproduction processing reference file corresponding to the moving image file name according to a reproduction file name and a reproduction start time described in the reproduction information file, and when the reproduction processing reference file exists, reading the reproduction processing reference file, decoding the reproduction processing reference file and starting a decoding process from a P frame located at a position of the reproduction start time, and when the reproduction processing reference file does not exist, starting a decoding process from an I frame located immediately before the reproduction start time.~~

17. (Currently Amended) A moving image reproduction method comprising steps of:
discriminating whether or not a resume reproduction mode is specified according to an operation event;

reading a reproduction information file corresponding to a file name of data including an I frame when the moving image reproduction mode is specified; and

searching for a reproduction processing reference file corresponding to the moving image file name according to a reproduction file name and a reproduction start time described in the reproduction information file, and when the reproduction processing reference file exists, reading the reproduction processing reference file, decoding the reproduction processing reference file and starting a decoding process from a P frame located at a position of the reproduction start time, and when the reproduction processing reference file does not exist, starting a decoding process from an I frame located immediately before the reproduction start time. program for causing a computer to execute the steps as claimed in claim 13.

18. (Currently Amended) A computer readable medium storing instruction for causing a computer to execute the method as claimed in claim 14. The system, method, or program as claimed in claim 1, wherein the moving image file includes image data, audio data, and telop data.

19. (Currently Amended) The moving image reproduction system as claimed in claim 1, wherein the moving image file includes image data, audio data, and telop data. A resume reproduction system which is a device for reproducing multiplexed data composed of different types of data multiplexed, comprising:

~~a storage part for storing a multiplex data file, a reproduction information file in which control information concerning a reproduction process, including a reproduction position of the multiplexed data, is described, and a reproduction processing reference file composed of recoded data of unit frames;~~

~~a multiplex file processing part for performing the reproduction process for the multiplex file; and~~

~~a reproduction information file processing part for performing an analysis process for the reproduction information file.~~

20. (Currently Amended) A moving image reproduction system which is a device for reproducing multiplexed data composed of different types of data multiplexed, comprising:

a storage part for storing a multiplex data file, a reproduction information file in which control information concerning a reproduction process, including a reproduction position of the multiplexed data, is described, and a reproduction processing reference file composed of recoded data of unit frames;

a multiplex file processing part for performing the reproduction process for the multiplex file; and

a reproduction information file processing part for performing an analysis process for the reproduction information file. ~~The resume reproduction system as claimed in claim 2, wherein the moving image file processing part includes a data processing part for performing at least one of processes of reproducing and recording each of different types of data included in the moving image file.~~